Annex C: Training and Leader Development

General

The Army's mission remains to provide trained and ready land forces to the designated joint force commanders to fight and win our nation's wars. This remains a nonnegotiable mission that the Army must accomplish. Our Army is at war with nearly 50 percent of its forces engaged in combat. We will continue to be so for the foreseeable future. Our Army is a proud member of the Joint Force, expertly serving our nation and its citizens as we continuously strive toward new goals and improved performance. The Soldier's training, readiness and welfare are central to all that we do.

The American Soldier remains indispensable to the joint team. Flexible, adaptive and competent Soldiers infused with the Warrior Ethos fight wars and win the peace. The individual Soldier is the centerpiece of our combat systems and formations. Training Soldiers and developing leaders to function effectively in units is central to mission success.

The Army has two core competencies supported by a set of essential and enduring capabilities. The Army's core competencies are: (1) train and equip Soldiers and grow leaders; and (2) provide relevant and ready land power capability to the combatant commander as part of the joint team. The Department of Defense's (DOD's) Transformation Planning Guidance (TPG) states, *"We must transform not only the capabilities at our disposal, but the very way we think, the way we train, the way we exercise and the way we fight."* We are reexamining and challenging our institutional assumptions, paradigms and procedures to better serve our nation. The end result of this examination will be a more relevant and ready force—a campaign-quality Army with a joint and expeditionary mindset. Our Army will retain the best of its current capabilities and attributes while developing others that increase relevance and readiness to respond in the current and projected strategic and operational environments.

Army Culture

Army culture is representative of American society as evidenced by the adoption of the seven Army values: loyalty, duty, respect, selfless service, honor, integrity and personal courage. These values play a critical role in shaping the beliefs of Soldiers and leaders. Army culture is internalized over time by its members and is reflected in their practices and beliefs.

Values are a nonnegotiable element of Army transformation. A highly complex, nonlinear battlespace will create situations that may at first appear morally ambiguous. To combat this perceived ambiguity, Soldiers and leaders require a solid foundation and regular training in Army values. This training will ensure that Soldiers and leaders, when confronted with morally uncertain situations, understand what "doing the right thing" means. Army values will continue to be the foundation of our Army culture.

The Warrior Ethos refers to the professional attitudes and beliefs that characterize the American Soldier. At its core, the Warrior

Ethos grounds itself on the refusal to accept failure. The Warrior Ethos requires unrelenting and consistent determination to do what is right and to do it with pride. In whatever conditions Army leaders find themselves, they turn the professional Warrior Ethos into a collective commitment to win with honor. The Warrior Ethos applies to all Soldiers, not just to those who close with and destroy the enemy.

The Soldier's creed serves to unify all Soldiers and leaders in a common bond. It is the key component to the inculcation of the Warrior Ethos. The creed speaks to the heart of every Soldier and leader. It is the touchstone that keeps Soldiers and leaders leaning forward during times of hardship and adversity and the mantra by which Soldiers and leaders live to fight for one another. The Soldier's creed is the common bond that transcends all distinctions but one, what it means to be a Soldier.

Army units operate in battle as part of the combatant commander's joint team. Because we fight jointly, we must think, train, educate and exercise joint. Army culture must embrace its nesting within joint culture. Jointness must be incorporated in every facet of Army culture. Jointness must be a common thread running through all aspects of Army training and leader development.

Future Force

Future Force Soldiers and leaders will form the core of lethal and effective units capable of exploiting information dominance and employing warfighting systems of systems to meet the Future Force operational requirements. They will be highly trained to be strategically responsive, deployable, agile, versatile, lethal, survivable and sustainable across the entire spectrum of military operations. Soldiers and leaders will be confident and competent, and capable of rapid synthesis and assessment of information and immediate situational understanding.

The Future Force will require units trained to rapidly transition from one mission to the next and conduct mission planning en route while assembling a task organization tailored into force packages for mission execution. Commanders and battle staffs must be trained to see and understand the battlespace. Organizations need to be skilled at the rapid collection and fusion of information from manned/unmanned systems coupled with human intelligence (HUMINT) that enables situational understanding and decisive operations. Commanders and battle staffs must synchronize and integrate joint fires to allow Future Force units to mass effects at the critical space and time.

The training environment will need to approximate the operational environment. Our modernization effort requires transforming initial military training, leader development and professional military education. Additionally, we need to embed training capabilities into our operational platforms and resource the institution to meet reach requirements mandated by the force. Live-virtual-constructive (LVC) training capabilities must be integrated and linked to joint training capabilities. At end state, our Army will employ training capabilities with seamless links between training institutions, home station, combat training centers, and when deployed. By achieving these capabilities, the Army will be able to train, alert, deploy, employ and execute to meet our nation's complex national security requirements. The difference between operations today and Future Force operations is a requirement for greatly enhanced doctrine, training, and leader development (DTLD) capabilities, enabled by improved processes

and an integrated Training Support System (TSS) that supports Soldiers and leaders whenever and wherever required.

Future Force Concepts and Capabilities

Training and developing the Future Force Soldier and leader is derived from an assessment of Future Force warfighting concepts and capabilities. The strategic concepts derived from this analysis are:

- Sustain a doctrine- and standards-based Army
- Be capable of full-spectrum training
- Develop Future Force Soldiers
- Develop Future Force leaders

From these concepts, seven strategic capabilities follow, including:

- Develop technologically enabled, highly responsive, flexible, tailored, dynamic knowledge depositories containing doctrine, tactics, techniques and procedures (TTPs), and training support publications, products, packages and modules
- Embed training tools into operational and institutional system of systems
- Integrate Army LVC training capabilities and link to joint training capabilities
- Make training and training support available on demand
- Link training environments and domains through the infosphere and the Global Information Grid
- Transform initial military training
- Transform Professional Military Education (PME)

Centers and schools of the institutional Army will continue to provide baseline proficiency of Soldiers and leaders assigned to operational units. During initial military training, centers and schools will continue to train new recruits and officers, instilling the Army values and the Warrior Ethos, and preparing them for their operational assignments. During PME, centers and schools will continue to develop leaders through noncommissioned officer (NCO), warrant officer, and officer education programs. Additionally, in times of crisis and need for Army expansion, centers and schools will remain vital to the mobilization requirements of the Army.

The goal of unit training is mission readiness. Field commanders will continue to employ the principles of Army training to ensure proficiency on mission-essential tasks. Training will be standards-based and will prepare units to operate in a joint, interagency and multinational (JIM) environment. The intent will be to provide leaders and Soldiers with a realistic, operationally relevant training capability that can replicate the full spectrum of operations. Meeting these requirements will require an integrated TSS that will link Soldiers and leaders to the centers and schools and the combined training centers (CTCs) through a Global Information Infostructure (GII).

Training and Leader Development

Leader development is the deliberate, continuous, sequential and progressive process, based on Army values, which develops Soldiers and civilians into competent and confident leaders capable of decisive action. Closing the gap between training, leader development and battlefield performance has always been the critical challenge for any army. In an era of complex national security requirements, the Army's strategic responsibilities now embrace a wider range of mis-

sions that present even greater challenges to our leaders. These operations will include combined arms and JIM considerations.

The Army Training and Leader Development Model identifies an important interaction that trains Soldiers now and develops leaders for the future. Leader development is a lifelong learning process. The three core domains that shape the critical learning experiences throughout a Soldier or leader's career are the operational, institutional and self-development domains. These activities take place within an Army culture bound by distinct values, standards, ethics and the Warrior Ethos. Focused on the Soldier, these domains interact using feedback and assessment from various sources and methods, including counseling and mentoring, to maximize technical and tactical competence and, ultimately, warfighting readiness. Each domain has specific, measurable actions that must occur to develop our leaders.

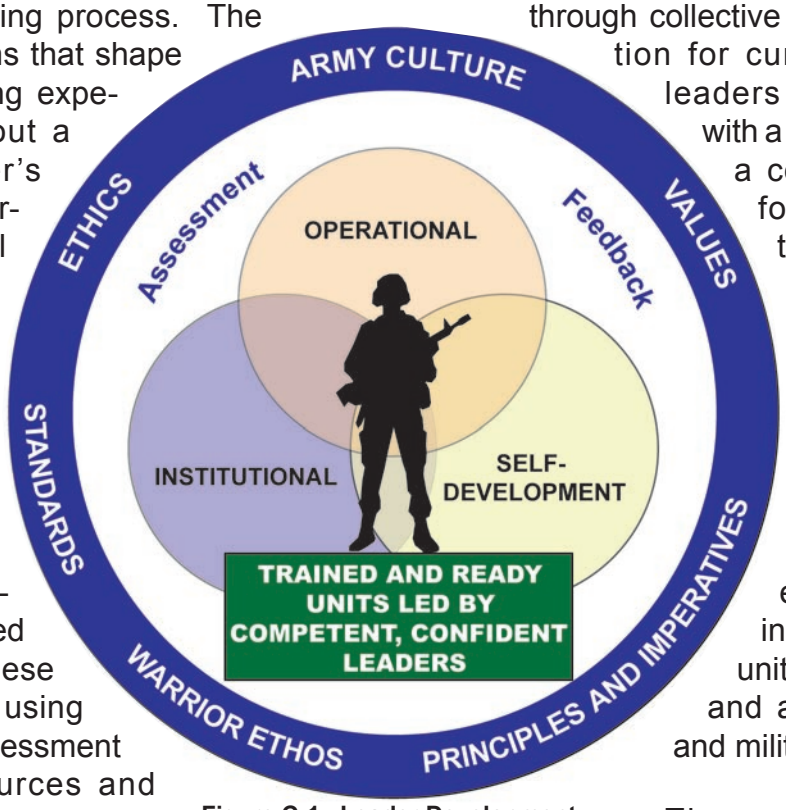

Figure C-1. Leader Development

In the operational domain, leader development is accomplished in units and organizations through individual and collective training at home station, during major training exercises, through CTC program participation, while conducting full-spectrum operations, and through the mentoring received at every level of command. In this domain, leader development is facilitated by individual commitment and chain of command support to self-development, and filling gaps in leader knowledge, skills and abilities as identified through individual and chain-of-command assessment and feedback systems.

The institutional domain provides standards-based training and education from individual through collective training. Instruction for current and future leaders will instill them with a Warrior Ethos and a common doctrinal foundation. Institutional training focuses on educating and training Soldiers and leaders on the key knowledge, skills and attributes required to operate in any environment. It includes individual, unit and joint schools and advanced civilian and military education.

The self-development domain is a standards-based, feedback-driven program of activities and learning that contributes to professional competence, organizational effectiveness and personal development. It is a program driven by the individual and the mentoring of superiors. This includes individual and organizational assessment and feedback programs in the operational and institutional domains linked to self-development activities. Throughout this lifelong learning and experience process, there are formal and informal assessments and feedback of performance to prepare leaders for their next level of responsibility. Assessment is the method used to determine

the proficiency and potential of leaders, and the feedback must be clear, formative guidance directly related to the outcome of training events measured against standards.

One mandate of Army transformation is to ensure the link between training and leader development is well understood in order to prepare Army leaders for full-spectrum operations. Linking these two fundamental obligations commits the Army to training Soldiers and civilians while developing them into leaders. Training and leader development is a team effort and the Army has a role that contributes to force readiness. For example, the institutional Army, which includes schools, training centers, combat training centers and PME programs, trains Soldiers and leaders to take their places in Army units by teaching doctrine TTPs. Other examples are operational deployments and major training opportunities such as CTCs, CTC-like training, and mission rehearsal exercises (MREs)/mission readiness exercises (MRXs). They provide rigorous, realistic, and stressful training and operational experience under actual or simulated conditions to enhance unit readiness and produce bold, innovative leaders.

Department of Army Civilians

Army civilians are committed to the Army, seek training and development opportunities and desire good leadership. The future targets civilians with more responsibility and in greater leadership roles in our transformed Army as more military positions in the institutional Army are civilianized. This mandates a robust civilian leader development program, which is directly linked to readiness.

To ensure Army civilian training, education and leader development is a high priority, proponency for civilian leader development transferred to G-3 and a civilian leader development division was created. The mission of the division is to ensure the Army provides training, education and operational experiences to develop leader competencies and enhance capabilities of Army civilians in support of Soldiers, the Army and the nation. The division monitors the implementation of the Army Training and Leader Development–Civilian Implementation Plan for pace of completion, senior leader involvement and funding. G-3 proponency for civilian leader development will bring about a significant change in Army culture as we move to greater integration of civilians within the uniformed force. The oversight of the training of civilian leader development and related policy issues dictates that the G-3 remains cognizant of all issues and actions that impact Army training. This transformation, like the overall Army transformation, will take time and will continue to evolve.

TRADOC remains the executive agent for the development of an education system integrating civilian and military individual training, education and development, where appropriate, that will lead to the implementation of a Civilian Education System (CES). The CES will include other requirements such as: develop a structured, progressive, sequential approach; broaden the targeted civilian educational training base; develop leader training and education that supports civilian leaders career path requirements and professional development; and establish lifelong learning and self-development as integral parts of all civilian training programs. The design, resourcing and implementation of the CES are the major supporting elements in the implementation of the desired civilian leader development end state.

These changes will insure that the Army will have the trained, competent and confident civilian leaders it needs to support the Army mission, readiness and other requirements of the 21st century Army.

Professional Military Education

The Army requires Soldiers and leaders, steeped in the warfighting capabilities and doctrine, to be knowledgeable and experienced in how to analyze the ability of their units to operate and sustain themselves on the battlefield. Warfighting modules will teach leaders standard U.S. Army techniques and procedures for tactical decision making and the tactical employment of companies, battalions and brigades in combined arms, full-spectrum operations. Warfighting training will be tactically focused, hands-on and execution-oriented, and will culminate with an exercise that stresses and develops the leaders' ability to rapidly make decisions and to apply the elements of combat power within the operational framework of full-spectrum operations. The intent of the warfighting curriculum is to produce leaders who are highly skilled in combined arms maneuver, support and sustainment of companies, battalions and brigades as part of the joint team.

Officer Education System (OES)

The Officer Education System (OES) is being adapted to meet the needs of the transforming Army and the realities of the contemporary operating environment (COE). We have begun to adapt instructions to include the new operational environment and will gradually expand this to incorporate all programs of instruction (POIs) and training scenarios. The Army requires leaders who are able to manage training in order to prepare their unit for operations. Leaders must understand the development of a Mission Essential Task List (METL) as well as the entire Army training management cycle and the other tenets set forth in *FM 7-0, Training the Force*, and *FM 7-1, Battle Focused Training*.

Basic Officer Leader Course

The Basic Officer Leader Course (BOLC) incorporates recommendations from the Army Training and Leader Development Officer Panel and the OES Needs Analysis Study. It transforms precommissioning and officer basic courses to better prepare second lieutenants to achieve success in the COE immediately upon arrival in their first unit. The objective is to develop technically competent and confident platoon leaders grounded in leadership and field craft, regardless of branch, who embody the Army values and the Warrior Ethos and who are physically and mentally strong. To achieve this objective, BOLC capitalizes on experience-based training, logically structured to build upon and reemphasize previous lessons learned.

Phase I (Precommissioning). The traditional commissioning sources are revising their curricula to train and educate the majority of performance tasks (basic Soldier and leader skills) commonly performed by all lieutenants. Each officer candidate or cadet, regardless of commissioning source, will be trained using the same standards and POIs. They will be steeped in the values and traditions of the Army, and will possess a clearer knowledge of what it means to be an officer.

Phase II (Experiential Leader Training). Upon graduation/commissioning, lieutenants attend the second, branch-immaterial phase of BOLC. This course is physically and mentally challenging, with 84 percent of the training conducted hands-on in a tactical or field environment. The platoon is the focal point for all activities, as each student is evaluated in a series of leadership positions under varying conditions/situations. A highly trained cadre of officers and NCOs continuously assess and counsel the performance of each student. Officer students also participate in several

peer reviews and self-assessments. The curriculum includes advanced land navigation training; rifle marksmanship; weapons familiarization; practical exercises in leadership; chemical, biological, radiological and nuclear (CBRN) operations; and use of night vision equipment. It culminates in squad and platoon situational-training exercises using COE scenarios (including urban terrain). Students also complete several confidence courses containing obstacles that challenge students to overcome personal fears. Lieutenants depart BOLC II with greater confidence, an increased appreciation for the branches of the combined arms, and a clearer picture of their personal strengths and weaknesses. To date, four highly successful pilot courses have been conducted.

Phase III (Branch Specific Training). After gaining confidence in their abilities to lead small units, these officers are prepared to learn the specialized skills, doctrine, tactics and techniques associated with their specific branch. Upon graduation, officers will proceed to their first unit or attend additional assignment-specific training (airborne, Ranger, language school, etc.).

Curriculum refinement for the BOLC pilot program will continue in FY05, reflecting the needs of the Army and recommendations from graduates. When implemented, BOLC will provide the institutional training and education required to develop the high-quality officers needed to lead the Future Force.

Captains Professional Military Education (PME) is being redesigned based on the feedback from numerous surveys. Currently, captains' career development is not meeting the needs of the professional company grade officer. Analysis of the data indicates that emphasis is needed on assignment-tailored training focusing on specific primary staff positions, realistic scenario-driven command training, and minimal time away from the family. Future captains' PME will be a change from the current six-month model and will feature:

- Company command and staff competencies
- Branch and combined arms focus
- Linked to next duty assignment
- Introduction to joint operations
- Digital skills
- Knowledge and application-based instruction
- Leverage learning technologies
- Less than six months in length

The reevaluation of captains' OES requires branches to update task analysis of all company commander and staff officer positions. This is leading to the validation and quality assurance of all present officer advance courses and the updating of their terminal learning objectives (TLOs). The end state is a captains' OES that prepares captains for their next job, making them more productive and adding to a positive working environment. The method of instruction is being redesigned to give a realistic, hands-on experience to stimulate better recall during all situations, most importantly in a combat environment.

Intermediate Level Education (ILE) consists of two phases: the core curriculum course and the qualification course. The core course is a 13-week military education level (MEL) 4 awarding course (similar to term I of Command and General Staff College (CGSC)) for officers in the four career fields. A 28-week qualification course (similar to terms II and III of CGSC) is being developed by CGSC

for officers in the operations career field. Each functional area (FA) in the other three career fields will conduct individual qualification courses ranging from two to 178 weeks in length. The core course provides Army officers a common MEL 4 education and Joint Professional Military Education (JPME) I credit; qualification courses prepare officers for duties in their respective career field or FA. International military students (IMS) will continue to join their U.S. counterparts in most OES and ILE courses (core and FA).

Warrant Officers Training and Education

Our warrant officers are highly specialized, small-unit leaders and trainers who serve their entire careers honing technical and tactical skills. As our senior leadership changes and technology advances, warrant officers provide the essential continuity for these transitions. The COE and full-spectrum operations require a fully integrated officer corps ready to meet the challenges of the Current and Future Forces. To fully exploit the unique capabilities of this cohort, the Army must complete the full integration of warrant officers into the officer corps.

Central to this concept is the creation of a single OES for all Army officers. This OES will include the technically specific elements of warrant officer training and education, rather than maintaining a separate, standalone Warrant Officer Education System (WOES). This integrated education system must develop and implement nested training opportunities, and investments in infrastructure and educational technologies, and staff and faculty. We will begin this process by developing a combined pre-appointment and precommissioning training course for all officer and warrant officer candidates, producing officers bonded and grounded in the common fundamentals of officership, capable of small unit leadership, and possessing sound conceptual and interpersonal skills. Newly appointed warrant officers will continue to receive warrant officer specific training to attain and sustain the technical competencies and balanced leadership skills required by each branch. Assignment-oriented training and education opportunities will be expanded to prepare our warrant officers for the unique assignments that may lie outside their normal specialty or that are above their grade.

A comprehensive, systematic needs analysis, job analysis and critical individual task analysis of warrant officer training and education will be completed in accordance with the systems approach to training process to determine the training and education requirements by branch, specialty and grade.

NCO Education System (NCOES)

Soldier and leader competency is the center of gravity for our Army. A critical near-term task is to transform our NCOES to insure it develops the competent and adaptive leaders required in a more complex and uncertain environment. While the current NCOES is not broken, the world and the Army are changing. NCOES will therefore also change. NCOs will continue to be the masters of leader tasks for their respective levels of responsibility and of individual and small-unit training; they will continue to be the recognized experts in field craft, basic marksmanship, Soldier care and technical skills. In addition to these traditional skills, the Army will develop NCOs who can master new information quickly, adapt to rapid mission changes, and take advantage of opportunities on the battlefield. Our educational system will train the right tasks at the right levels and will prepare the NCOs to operate in both the analog and digital environments. In developing a future NCOES, we will look at three critical areas:

Infrastructure. Future strategies for infrastructure will address combining both Active Component (AC) and Reserve Component (RC) OES/NCOES training events. The use of RC training infrastructure will leverage AC/RC training by providing more locations by reducing distance and travel cost for Soldiers. Our capabilities will also fully leverage the LVC learning environment to provide the right training, at the right place and right time in a Soldier's learning path. Our infrastructure will move us from place- and time-based learning strategies to a strategy that pushes training to the Soldier any place and any time it is needed.

Faculty. Changes in learning strategies and the incorporation of new technologies require our NCOES faculties to learn new skills. Each member of an NCO academy and proponent school cadre will master the use of technology and understand how to develop both live and virtual collaboration skills in their students.

Curriculum. The Future Force Soldier will operate in an intent- and network-centric environment requiring enhanced thinking, learning, and decision-making skills that allow them to act decisively based on the commander's intent and good situational awareness. The instructional design of NCOES will become more experiential and problem-solving oriented. Our overall design for professional development will include the integration of shared training opportunities between officer and NCO development systems. As the Army evolves to meet full-spectrum operational requirements, expectations of the NCO corps will increase and the tasks normally associated with more senior NCOs will migrate downward. We will also begin to develop NCOs who are competent battle staff NCOs at the staff sergeant (SSG) level, and continue to grow and refine those skills at the sergeant first class (SFC) and master sergeant (MSG) levels.

Primary Leader Development Course (PLDC)—Educating the Sergeant. The sergeant is the primary first-line leader for our Soldiers. PLDC is the developmental experience that transitions the Soldier to becoming an NCO. Feedback from the Army indicates the current PLDC is not sufficiently performance-oriented. A new POI addresses that concern. We will field a course of instruction that:

- Is more experiential-/performance-oriented
- Has a clearer focus on the NCO's responsibility to lead and train
- Emphasizes the "be and do" aspects of NCO leadership
- Emphasizes troop-leading procedures and field craft
- Provides the NCO with the capability to actively participate in the after action review (AAR) process
- Is more challenging with numerous problem-solving situations
- Teaches self-development and stresses developmental counseling, goal setting and linkage to training in course POIs

Basic NCO Course (BNCOC)—Educating the Staff Sergeant. At the SSG level, we will continue to develop leaders who are masters of their military occupational specialties (MOSs) as well as expert trainers and training managers. At this level, we will continue to focus on leading and training inside the platoon formation and providing the initial exposure to core staff skills needed inside the battalion formation. We will provide SSGs training on:

- Common and MOS-specific skills
- How to lead and train the squad and section
- Performance-based learning using the concept of leader labs
- A clearer focus on leading and training within platoons and squads
- Enhanced MOS technical and tactical skills
- Multi-echelon, shared training events with other ranks
- Exposure to staff skills needed in the battalion and brigade tactical operations centers (TOCs)

Advanced NCO Course (ANCOC)—Educating the Sergeant First Class. At the SFC level, the focus needs to expand from MOS-specific training to the battlefield operating system. The focus becomes leading and training inside the company formation and expanding the NCO's staff skills to those needed inside the brigade formation. The officer-NCO relationship receives more attention at this level. At this level, we will train the SFC on:

- MOS-specific skills
- How to lead and train the platoon
- Expanded battle staff skills at the battalion and brigade levels
- Leading and training inside the company and platoon formation and the relationship to the company team and battalion task force
- A broader understanding and capability beyond the specific MOS
- More multi-echelon, common/shared training events with other ranks
- Skills, knowledge and attributes (SKA) that foster conceptual thinking and reasoning
- Focus on officer-NCO relationship inside the company/battery/troop

Educating the Master Sergeant and First Sergeant. Today, the NCO does not receive any formal training between the ranks of SFC and MSG. In the past, two functional courses, First Sergeant Course and Battle Staff NCO Course, have attempted to fill this void. Since neither is tied to promotion and not all NCOs attend, many newly promoted MSGs must learn to succeed at their new rank the hard way. Based on their MOSs or assignment, these NCOs would also take one or more of three additional tracks of technical, first sergeant, or staff skills.

Sergeant Major Course (SMC)—Educating the SGM/CSM. The capstone of NCOES continues to be the Sergeant Major Course. However, some of the same deficiencies mentioned about PLDC are also true of the current SMC. Teaching by briefings will be replaced by problem-solving activities, where students learn by doing. Training for the SGM/CSM will include:

- Battle staffs inside the Brigade Combat Team
- How the Army runs
- Sister Services' roles and missions
- Operations within a joint context
- How to lead and train at the battalion level and above
- Team building and building high-performance teams
- Command team relationships

- Training and education on both analog and digital operations
- Leading complex organizations/group dynamics
- More performance-based simulation and simulation-driven exercises to explore full-spectrum operations

Army Distributed Learning

Distributed Learning (DL) is the delivery of training to Soldiers and units through multiple means and technology. DL allows students, leaders and units centralized access to essential information and training. It represents a powerful capability in which the proper balance of course content and delivery technologies are provided when and where they will have the greatest impact on force readiness.

The Army Distributed Learning Program (TADLP) is a Department of the Army (DA) program that was approved for implementation in 1996. TADLP is funded in FY98-10 to field DL classrooms and convert selected Army courses to DL delivery media. The mission of TADLP is to improve training, enhance force readiness and support Army transformation by exploiting current and emerging technologies to facilitate the development of self-aware and adaptive leaders through lifelong learning and the delivery of the right training and education to the right Soldier and leader at the right time and place. The TADLP Campaign Plan contains the requirements, policies and management tasks to ensure the program's support of Army readiness.

Infrastructure. TADLP is an approved Army acquisition program that is integrated with the Army National Guard (ARNG) Distributed Training Technology Project (DTTP). The DTTP is a congressionally directed assistance program with an acquisition component. TADLP and DTTP complement each other but have different missions and objectives. TADLP focuses on military readiness training for AC and RC forces. The DTTP supports and extends TADLP's military readiness training goal while also supporting multiple ARNG missions to include command and control of state Guard units, and providing shared community access to electronic technology.

Courseware. Selected courses are being redesigned to provide DL training phases/modules. These courses will allow students to participate in both synchronous and asynchronous multimedia training. Selection of courses for DL redesign is based on Army readiness requirements and high-level interest of the senior Army leadership. Under the current plan, over 525 courses will be redesigned for DL delivery by FY10.

Classroom XXI Program (CRXXI). Although separate from TADLP, CRXXI provides training modernization that enhances the TADLP Digital Training Facility (DTF) at Army resident schools. This program improves training provided through the schools and allows the broadcast of training to remote TADLP/DTTP DTFs. In addition, CRXXI establishes Army standards for courseware development and playback, instructional technology capabilities that are Soldier-centered, and design and architectural standards for classrooms. CRXXI is scheduled for completion by the end of FY09, with a total of 270 classrooms to be fielded.

Self-Development

The Army must have Soldiers and leaders who continually seek to improve their knowledge, skills and abilities. Self-development initiatives contribute to a leader's develop-

ment by focusing on maximizing strengths, minimizing weaknesses, and ensuring that professional and personal goals, needs, and objectives are realized. Self-development is a continuous, career-long process. It takes place during institutional training and development and during operational assignments and should stretch and broaden the leader beyond the job or training requirements. Self-study, professional reading programs, and civilian education courses support the individual's developmental goals. Self-development supports the requirement for all leaders to be self-aware—to know their strengths and weaknesses in order to take the necessary steps to improve their skills, leadership and attributes.

The focus of self-development is twofold: to fill individual Soldier or leader training, experience and education voids; and to ensure the Soldier meets personal and professional goals. The individual self-development portion of the leader development program is a joint venture between the individual and his or her chain of command.

Self-development is empowered by individuals' acceptance and commitment to lifelong learning wherever they are located. Lifelong learning fills knowledge gaps and provides greater depth and breath of knowledge that educational and operational experiences do not provide. The single most critical element of lifelong learning is feedback. Feedback sets the basis for increasing self-awareness and identifying individual Soldier and leader developmental needs. This strategy must integrate training and education content and materials with operational experiences, assessments, and feedback to ensure effective learning of required skills, knowledge, and attributes.

Operational Assignments

Home Station Training

Home station (installations, ARNG armories, Reserve centers) is the physical location of the majority of training and plays a key role in the training environment. Our goal is to provide units the ability to train at home station to standard and to a CTC-like fidelity. Many things that are currently only executed at the CTCs may be trained at home station in the future. Home station is where individual skills are honed; it is where unit readiness and cohesion are formed. In light of the "ready now" readiness construct and the train and ready phases of the life-cycle manning model, home station training cannot be suboptimal. The critical training events and task training that units need to accomplish must be supported with the correct mix of training enablers—embedded training, ammunition, TADSS, instrumentation, live-fire ranges and maneuver training areas at home station.

Units must be prepared to deploy with units stationed anywhere in the world. Early deploying units will plan training based on a train–alert–deploy–execute model. Home station training gives leaders the opportunity to practice and gain competency and proficiency while reinforcing knowledge learned in the institutional training base.

The Army exists to provide trained and ready forces to combatant commanders. The commander is primarily responsible to ensure his unit can perform directed missions. When given a directed mission, the commander adjusts the unit's core (wartime/designed) METL and focuses training on the directed mission. In the absence of a directed mission, the commander prepares his unit to perform those core METL tasks that enable his unit to respond to missions from across the range

Figure C-2. Soldier and Leader Development

of military operations in the contemporary operating environment. Army-approved training strategies for different types of units (i.e., combined arms training strategies and Army weapons training strategies) enable the commander to train on mission essential tasks by defining the training events that the Army will support with resources. Life-cycle units, in particular, closely follow Army-approved training strategies during their train-up period to ensure the unit builds proficiency and is validated for deployment/employment within requisite time lines.

Joint Training

Contemporary operating environments increasingly require seamless integration of JIM operating elements. Army leader development and training programs, which are being executed more in a joint context, are incorporating broader knowledge and perspectives. The end state will be Army leaders who demonstrate the values, character, competency and confidence to lead Soldiers, sailors, Marines, airmen and coastguardmen in any mission. In addition, Army leaders will be able to successfully participate in coalition operations throughout the world.

Using commonly shared TTPs, units will be able to adapt to an operational environment that includes government, nongovernmental organizations (NGO), private volunteer organizations, and Special Operations Forces (SOF). When required by assigned missions, the training of Soldiers, leaders and battle staffs will incorporate consideration of JIM and SOF planning, command and control and execution. Home station and deployed training capabilities will provide Soldiers, leaders and battle staffs with the means to conduct full-spectrum operations (to include the integration of SOF) in a JIM environment.

Training While Deployed

Our Soldiers, leaders and units must have the capability to train while deployed to sustain operational readiness and/or train new tasks as required by the mission. Our training support systems must be built to support the home station training strategy, training at the combat training centers, and for mission planning and rehearsal while deployed. The embedded training system design for the Future Force systems will go a long way in meeting these requirements. In the meantime, the Army must provide training support and kits in support of current operations in Iraq, Afghanistan and Bosnia. This could include range targetry, Multiple Integrated Laser Engagement System (MILES), mobile military operations in urban terrain (MOUT), engagement skills trainers, virtual simulations

and other training aids, devices, simulators and simulations (TADSS).

Combat Training Centers

The CTC program comprises the Battle Command Training Program (BCTP), Combat Maneuver Training Center (CMTC), Joint Readiness Training Center (JRTC), and National Training Center (NTC), and integrates training with the Joint National Training Capability (JNTC). The CTC rotations remain the Army's capstone training events for battalions and brigades, divisions and corps. Their focus remains leader development and readiness. The primary purpose of the CTCs is to develop self-aware, adaptive leaders and ready units for full-spectrum JIM operations. CTCs will accomplish this by integrating a contemporary and joint operational environment into all training. This environment will include simultaneous, noncontiguous and continuous operations in a distributed, global, LVC training capability under a JIM context. Army units will get a rigorous fight in the COE including offensive, defensive, and stability and support operations against a freethinking and adaptable opposing force (OPFOR). The battlefield will be arrayed in-depth to maximize stress on digital C4ISR systems. Complex terrain including MOUT operations will be a part of each rotation. SOF operations will be integrated throughout the rotation as well as realistic combat service support (CSS) play to stress the logistics structure. Instrumented feedback for both formal and informal AARs will facilitate sharing of lessons learned to home station, institutions and deployed units. Deployment training will remain a paramount aspect of CTC training to include realistic time-phased force deployment data (TPFDD) flow. The Army fully supports the JNTC where joint integration will become the norm. Finally, expanding global reach of the CTCs will be necessary to rapidly respond to future training challenges to support units preparing for or in combat. As a result, the Army will explore exportable CTC capability with deployable instrumentation and AAR enablers to support a joint expeditionary mindset.

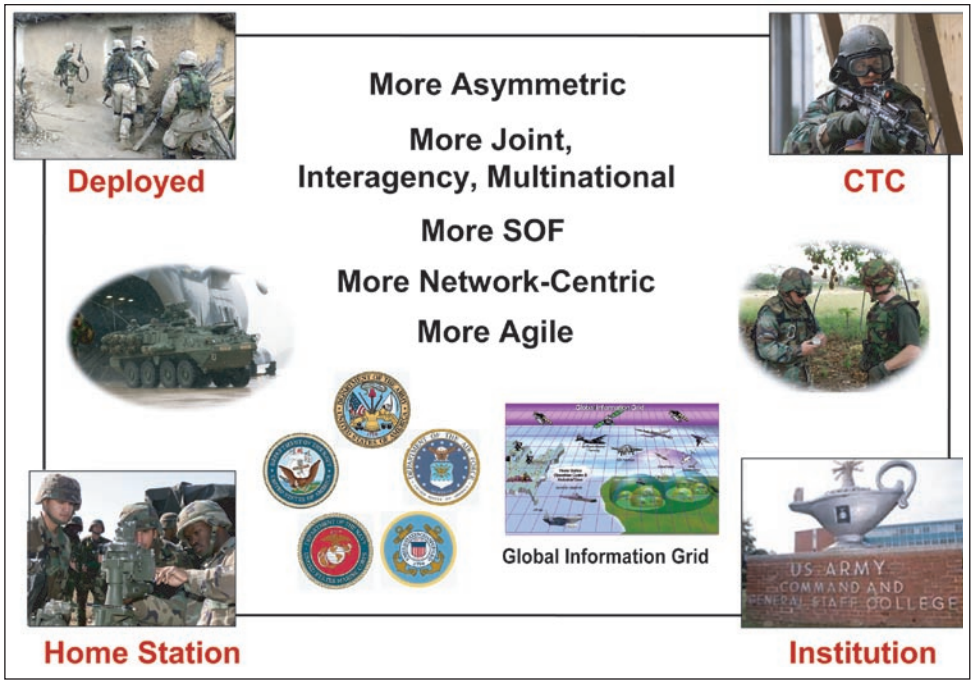

Figure C-3. How We Will Train in the Future

Training Modernization

As the Army reorganizes into the modular units and fields new equipment, training transformation must keep pace, ensuring our Soldiers and leaders can train and maintain the high level of readiness that these new

organizations and our National Military Strategy demand. Training transforms people, equipment and organizations into a capable unit. Training modernization provides commanders with the enablers required by the Army Training Strategy to execute training to standard, anytime and anywhere. The Army's training modernization efforts are synchronized with the Army Campaign Plan to ensure enablers are relevant and support all current and future efforts.

Training Support System (TSS)

The TSS, generally described in FM 7-0 and FM 7-1, represents the concept for how training enabler resources support the Army Training Strategy, the Combined Arms Training Strategies (CATS), and the execution of training in both AC and RC units while at home station, deployed or at the combat training centers. TSS also describes how enablers support Soldier training in the institutions. More formally, it has been described as a system of systems that provides the networked, integrated, interoperable training support capabilities that are necessary to enable operationally relevant JIM training for Soldiers and units anytime, anywhere. TSS is inextricably linked to the execution of training by providing the training products and services across domains (operational, institutional, self development) to meet the challenges of training an Army, with a joint and expeditionary mindset undergoing transformation.

Training Support System Products are those tangible, enabling training capabilities that directly support the execution of Soldier, leader and unit collective training at home station, the combat training centers, and while deployed as well as the enablers that support Soldier training in the institutions. They include TADSS, ranges, training facilities and training support infrastructure. These products are required by the Army Training Strategy and the CATS to support the execution of training tasks.

Training Support System Services provide the management and support structure associated with the delivery, operations and maintenance of the training support system products wherever training is conducted. It includes the MACOM and garrison personnel and management systems required to conduct range operations and maintain training land; the training managers, operators and technicians required to support the operations of simulation and simulator facilities; and training support centers and the contract logistic support to sustain the fielded training products. It also provides the means for the integration of products to interoperate in a common training environment.

Training Architectures provide the means to ensure integration and interoperability across TSS product lines and with complementary systems.

Live-Virtual-Constructive–Integrated Architecture (LVC-IA). An LVC-IA Initial Capabilities Document that delineates current and future required training capabilities has been approved by the Army Requirements Oversight Committee (AROC). The AROC officially validates the requirement and initiates the DOD acquisition process. It is anticipated LVC-IA will have joint implications and is expected to proceed to the Joint Staff for review and approval by the Joint Requirements Oversight Council (JROC). The LVC-IA is a critical capability to train the current and future force and is required by DOD Training Transformation to support the JNTC.

Common Training Instrumentation Architecture (CTIA) is a component-based architecture that uses common standards,

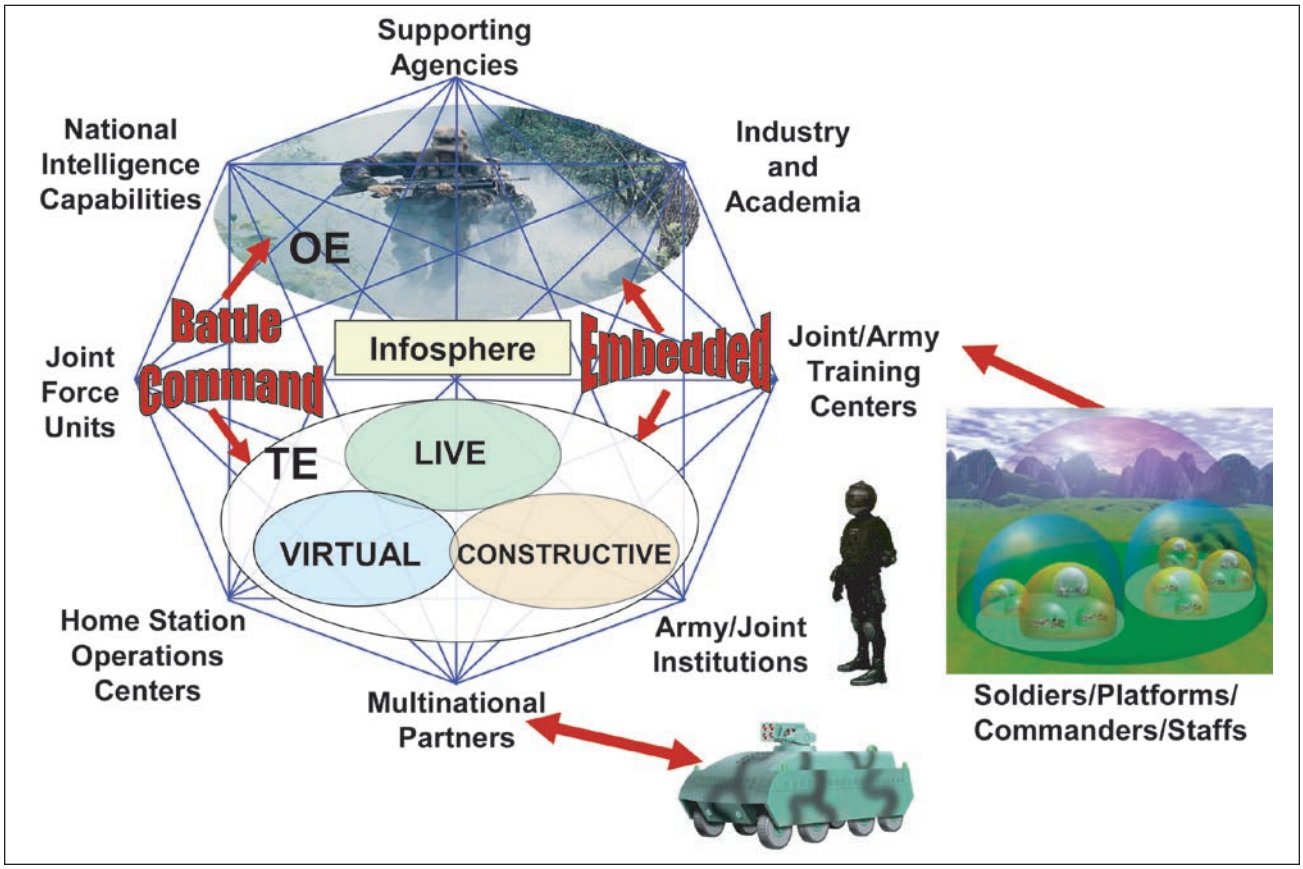

Figure C-4. Future Training Environment

interfaces, and protocols with other Synthetic Training Environment (STE) training systems. Along with OneTESS, CTIA provides the foundation of the Army's Live Training Transformation (LT2) product line for training instrumentation systems that support home station (DMPRC, MOUT, force-on-force, etc.), deployed and maneuver CTC live-training requirements. CTIA's common, component-based architecture approach ensures cost-effective modernization in support of digital current and Stryker training instrumentation systems and will evolve to support the Future Force's training requirements. CTIA is the underlying architecture of the LT2-FTS, and it supports Training Transformation (T2).

Army Training Information Architecture (ATIA) is an integrated suite of web-based training applications—DITSCAP-certified at Level 3—that supports the development, storage and delivery, and management of training and training products. Major components of the system currently include the Soldier's Training Homepage, Reimer Digital Library, Training and Doctrine Development Tool (TDDT)/CATS development tool, and selected training resource management and unit training management capabilities. ATIA components to be developed in FY05 include the Distributed Learning Management System (developed by PM DLS, it replaces the current interim Learning Management System) and the Unit Training Management Configuration (Training Management Toolbox).

Sustainable Range Program (SRP)

Live Training, carried out effectively to a high-doctrinal standard, is the cornerstone of operational success. To ensure mission success, units practice performing mission

essential tasks with the systems they must operate, under the conditions they must operate, with other units with whom they must operate, and against a force comparable to that which they will face on the battlefield.

It is essential to maximize the capability, availability and accessibility of ranges and training land to support doctrinal training, mission rehearsals and deployment training. The Army's Range and Training Land Strategy establishes priorities for investments in the transformation of ranges and training land to support the COE and Future Force. This strategy reflects Army training priorities and serves as a common roadmap to the MACOMs that carry out the Army's training missions, and the Installation Management Agency (IMA) that manages range and training land infrastructure in support of those training missions. Key range transformation initiatives, which include the Digital Range (both DMPRC and DMPTR), Battle Area Complex (BAX), and New Generation Army Targetry Systems (NGATS), are the first range products capable of supporting training the Future Combat Systems (FCS) weapon systems and maintaining the edge for current weapon systems. The instrumentation of the ranges, such as the DMPRC and BAX, is the critical step in testing the networked systems of the FCS Unit of Action. These specific Current Force ranges will evolve to the Future Force range concept being developed by TRADOC. The successful implementation of FCS live training is accomplished when the sharing of information in the FCS sensor array allows for the precision targeting and grouping of precision fires.

Army Targetry Systems (ATS)/New Generation Army Targetry Systems (NGATS). ATS provides nondigital, live-fire ranges that incorporate infantry and armor targets, both stationary and moving. ATS portrays realistic threat target scenarios to the Soldier under simulated battlefield conditions. NGATS is the future Army ground targetry system that will provide high-fidelity target signatures, evasive targets, shoot-back capability and remote scoring. Using COTS technology, NGATS will provide a more reliable system at lower cost. The NGATS will be mobile, transportable, deployable and capable of continuous support during designated training periods. ATS supports modular force conversion and the global war on terrorism pending NGATS fielding. Once fielded, NGATS will be used to equip all ranges.

Air Defense Artillery (ADA) Targets provide targets and ancillary devices for ADA live-fire crew weapon qualification and training events currently resourced under the Standards in Training Commission (STRAC). They provide required training and opportunity training to the air defense Soldiers for gun and Stinger missile live fire.

Instrumented/Digital Ranges. The Instrumented/Digital Multi-Purpose Training Range and Range Complex provide modern ranges capable of training and stressing today's Soldiers and their digital equipment with a realistic train-as-you-fight environment, using all available combat systems capabilities, and digitally integrating those systems to manage all forces undergoing individual and collective live-fire training and qualification. DMPRC provides Table XII platoon qualification and company CALFEX; DMPTR provides Table VIII crew qualification. Battle Area Complex (BAX) is a training range designed to support the Brigade Combat Teams (BCTs). The BAX will provide the BCT commander with a venue to train the majority of his force in one or a combination of linked training facilities. While the layout is typically to support combined arms training scenarios, the individual and crew requirements were incorporated to allow specific weapons platform qualification.

Instrumented/digital ranges are part of the Live Training Transformation-Family of Training Systems (LT2-FTS) and support modular force conversion.

Integrated Military Operations on Urbanized Terrain Training System (I-MTS) provides a melding of three separate but similar thrust efforts into a single program. These programs are the transition MOUT sites, the Combined Arms MOUT Task Force training sites, and other MOUT facilities. The program reduces acquisition and sustainment costs, leverages technologies and acquisitions, solves complex and common problems, fosters Horizontal Technology Integration (HTI) through commonalties and standards, synchronizes and integrates the collective efforts of the CTIA by leveraging near-term requirements, and supports the objectives of the Urban Operations Training Strategy. Integrated-MOUT Training System (I-MTS) is part of the LT2-FTS.

Battle Effects Simulator (BES) is a propane-charged firing system without pyrotechnics. Characteristics include 35 shots minimum per charge, excellent thermal signature and versatile audio-visual effects simulator. It can be configured as a weapon firing or a hit effects simulator.

Precision Marksmanship provides for enhanced individual weapons proficiency training in the institutional base and in units. Specific individual weapons type ranges are provided with precision-scoring capability to support basic and specialized skills. The precision marksmanship system supports modular force conversion and the global war on terrorism.

Aerial Weapons Scoring System (AWSS) provides a live-fire qualification capability for attack helicopter units. The AWSS is an integrated group of computer-controlled sensors used to score live-fire helicopter gunnery exercises at designated gunnery ranges. AWSS provides near real-time objective scoring results of live-fire exercises conducted from attack helicopters firing .50-caliber, 7.62-, 20- and 30-mm projectiles, and 2.75 inch training rockets. The AWSS also has the capability to objectively score simulated Hellfire missile engagements for helicopters equipped with the Hellfire training missile and laser designator. AWSS supports modular force conversion.

Deployable Range Packages (DARP) for specific units, to construct live-fire training infrastructure in theater, and Training Augmentation Range Packages (TARP) for MACOMs, the IMA and theaters to adapt to changing live-fire training standards driven by the COE.

Soldier/Leader Training Support

Multiple Integrated Laser Engagement Systems (MILES) replacement provides tactical engagement simulation for direct-fire, force-on-force training using eye-safe laser "bullets." MILES training has been proven to dramatically increase the combat readiness and fighting effectiveness of military forces. Enhancements include discrete player identification for all participants, enhanced audio-visual cueing effects, increased boresight retention and accuracy, event recording and display, increased programmability of weapon characteristics, and increased ability to account for side, flank, corner and rear shots.

Fixed Tactical Internet (FTI) is a permanently installed network of Enhanced Position Location Reporting System (EPLRS) radio sets with an EPLRS Network Manager that

enables digital communications across the Army's Tactical Internet. The FTI acts as an alternative means to provide on-demand digital communications in support of testing, training, maintenance and experimentation at brigade and below. The FTI can significantly reduce deployment of signal company assets during training events. It is being fielded to installations fielded with the Stryker, M1A2, and M2A3 vehicles as well as Fort Benning, Fort Knox and Fort Gordon. FTI does not provide a capability to train with a Blue Force Tracker or other non-EPLRS-based communications systems.

One Tactical Engagement Simulation System (OneTESS) is a family of tactical engagement simulation systems that supports force-on-force and force-on-target training exercises at brigade and below, in all battlefield operating systems, at home station, maneuver CTCs and deployed sites. The system will support the training of proper engagement procedures; simulate weapon systems accuracy and effects; and stimulate detectors, sensors, monitors and countermeasures. OneTESS will use a common architecture compliant with the Common Training Instrumentation Architecture (CTIA). Embedded training in the Future Force end state will incorporate OneTESS. Along with CTIA, OneTESS provides the foundation for the LT2-FTS product line. OneTESS will replace MILES TADSS. OneTESS supports T2 and the FCS.

Home Station Instrumentation Training System (HITS) is being reevaluated for a potential accelerated fielding. It provides objective data collection of unit performance in force-on-force, force-on-target, live-fire and associated command post exercises. HITS supports CATS training and exercise events. HITS will be the data transfer bridge between live training and the other training environments through CTIA and the LVC IA. An initial-HITS (I-HITS) capability, providing threshold HITS capability, is undergoing side-by-side comparisons. HITS is part of the LT2-FTS. HITS supports modular force conversion and the global war on terrorism.

Basic Electronics Maintenance Trainer (BEMT) provides basic electronics training of missile electronics repair and test, measurement and diagnostic equipment repair at Ordnance Missile and Munitions Center and School, Redstone Arsenal, and electronics maintenance repairer training at the Ordnance Electronic Maintenance Training Department at Fort Gordon.

Battle Command Training Support Program

The Battle Command Training Support Program provides the constructive training simulations and virtual simulator capabilities required by FM 7-0 and FM 7-1 and the Combined Arms Training Strategies.

Constructive Simulation Training is the use of computer models and simulations to exercise the command and staff functions of units, from platoon through Joint Task Force. It is the primary means for training BCT and above organizations in the art of warfighting. Constructive simulations permit multiple echelons of command and staff to execute their normal warfighting tasks in an extensive exercise without the resource constraints of large bodies of troops. It provides a versatile, cost-effective, low-overhead training environment that trains leaders how to visualize the battlespace and to make tactical decisions in a time-constrained, digitized environment. It also provides the "wraparound" for LVC integrated events and extending the battlespace to provide more realistic scenarios. Through the repetitive execution of tactical scenarios

followed by AARs, commanders and staff officers gain a realistic understanding of how to take advantage of the enhanced situational awareness afforded by the ABCS.

Army Constructive Training Federation (ACTF) consists of a variety of current and projected simulations and supporting applications and hardware designed to address the training needs of the Joint force land component commander (JFLCC) and Army Title X requirements across the range of military operations. The ACTF is a federation of simulations/models and the associated software tools required to compose, initialize, operate, tune and maintain a synthetic operational environment to support the conduct of collective command and staff training. ACTF enhances the effectiveness of commander and staff training, exercises, and staff mission rehearsals by dramatically increasing the realism and the scope of the available training environment in accordance with *Field Manual 3.0, Operations*, to meet the requirements of appropriate Universal Joint Task List, Army Universal Task List, Joint Operations Concept, and Force Operating Concepts. The constructive models in the ACTF include CBS; Tactical Simulation (TACSIM); Combat Service Support Training Simulation System (CSSTSS); Joint Conflict and Tactical Simulation (JCATS); Digital Battlestaff Sustainment Trainer (DBST); Warfighters Simulation (WARSIM); WARSIM Intelligence Model (WIM), an AAR tool (currently Vision XXI); the Joint Deployment Logistics Model (JDLM) and One Semi-Automated Force (OneSAF). ACTF supports modular force conversion and T2.

Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) is a training device being fielded to the Army to support MI units at corps and below. The IEWTPT enables realistic battle command training through the realistic simulation, stimulation, and presentation of joint and Army intelligence capabilities. It is designed to stimulate the MI collection system with scenarios that replicate battlefield situations utilizing the overarching constructive simulation as the driver. This puts the MI soldier in the training loop using the operational equipment and providing the required reports and data to the combat commander and his staff. IEWTPT supports modular force conversion and T2.

Joint Deployment Logistics Model (JDLM) is an exercise driver used to stimulate exercise play for the collective training of AC and RC commanders and their staff in command, control and coordination of combat service support (CSS). The training audience includes the CSS commanders and staffs in echelons above corps, corps support commands, and division support commands, as well as their subordinate headquarters down to battalion level. The simulation is both stochastic and deterministic and will accommodate any theater, depending on the database. JDLM is the only existing Army-approved training simulation capable of providing the detailed logistics information needed to train CSS staffs.

Common Battle Command Sim Equipment (CBCSE) is common off-the-shelf hardware that is used to run the ACTF software. It provides a significant improvement for running the simulations over legacy hardware. CBCSE requires replacement every 3-5 years to maintain relevancy.

One Semi-Automated Forces (OneSAF) is a tailorable and composable next generation Computer Generated Force (CGF) that represents a full range of operations, systems and control process (TTP) from entity to brigade levels with variable levels of fidelity, and supports all model and simulation domain applications with an emphasis on human-

in-the-loop and closed-loop modes. It will represent the physical environment, including urban operations and its effect on simulated activities and behaviors. OneSAF will be the future entity-level brigade and below constructive simulation and a component of the Army Constructive Training Federation (ACTF), and will be used in battle labs and research development and engineering centers (RDECs). OneSAF will be interoperable with ABCS and Force XXI Battle Command, Brigade and Below (FBCB2). It will be the embedded training capability of FCS and the objective semi-automated forces (SAF) component of CCTT/AVCATT/SE Core simulation systems, and will interoperate with OneTESS and the Army Combat Training Instrumentation Systems. OneSAF enables integrated LVC simulations into realistic synthetic battlespaces. OneSAF will represent C4I, combat, combat support (CS) and CSS, and will significantly reduce exercise overhead. OneSAF will replace JANUS (A/T), Battalion Battle Simulation (BBS), OneSAF Test Bed, JCATS (MOUT), and CCTT/AVCATT SAF after fielding. OneSAF supports T2 and the FCS.

Battle Command Training Centers (BCTC) (aka Mission Support Training Facility (MSTF)). The BCTC provides a turnkey digital training capability to conduct individual and collective training throughout the AC and RC, enabling the commanders to train individual operators, leaders and battle staffs across the full spectrum of operations, to include mission rehearsal and reach capabilities using their like go-to-war systems. Architecture provides a near-seamless LVC training environment. BCTCs directly support the execution of day-to-day operations and exercise support for all leader and battle staff training required by the CATS, Army and MACOM 350-1 training directives, and Army Training Strategy to achieve combat readiness in Service, joint and/or combined arms training environments. BCTC supports modular force conversion, the global war on terrorism and the FCS.

Virtual Simulation Training is executed on computer-generated battlefields and provides crews, leaders and units with realistic, immersive training experiences using an embedded training capability or man-in-the- loop simulators that approximate the physical layout of tactical weapon systems and platforms. In the virtual environment, simulators operating on virtual terrain take the place of weapon systems and can be linked to expand the scope of the training event. Virtual training systems provide commanders with "walk-level" training, sustainment training, gated training events, leader development and mission rehearsal capabilities. Through frequent and repetitive use and an immediate and total replay AAR capability, virtual training systems assist commanders with the building and sustaining of training readiness. Virtual training also has the advantage of allowing Soldiers to perform tasks too dangerous for the live environment (such as calling for artillery fires on or near an occupied friendly position), provides the capability for rapid changes to scenarios, and facilitates retraining specific tasks until training objectives are met. Virtual simulations allow repetitive training under varying conditions to enable the individual or team to conduct live training at a higher state of readiness, potentially reducing OPTEMPO costs. Many virtual simulations also provide a link to the ABCS, thereby providing a realistic training environment for the digitized units and battle staffs.

Close Combat Tactical Trainer (CCTT) is the Current Force's ground maneuver component of CATT, and is a system of computer-driven, combat vehicle simulators such as the M1 Abrams Tank, the M2 Bradley Fighting Vehicle (BFV), the M3 Cavalry Fighting Vehicle, the

Fire Support Team Vehicle, the HMMWV, and emulators that control other vehicle models and that work interactively, similar to the vehicles and functions they simulate. These simulators and emulators are connected via a local area network (LAN). The system's computers create a simulated battlefield that, when viewed by Soldiers who are using the system, creates the illusion of moving and fighting over actual terrain while operating or riding inside the actual vehicles, and employing the actual weapon systems mounted in or on the vehicles. CCTT is a type-classified system similar to Simulation Network Training (SIMNET-T), but with higher fidelity and more types of manned simulators, more capable emulators, a highly developed SAF, and much improved visual and terrain fidelity. CCTT is fielded in company/team sets for the AC and mobile platoon sets for the Army National Guard. Army National Guard units also have access to CCTT sites at AC Army posts for use during inactive duty training and annual training. This system supports modular force conversion.

Synthetic Environment Core (SE Core) is the Army's virtual component of the LVC-IA. It is a program that will integrate the various functions and components of virtual simulations and link the virtual environment to the LVC training environment (TE) to support DOD's T2 and the Army's FM 7-0 training strategy. SE Core will develop new, and integrate existing, hardware and software products creating the Army's common virtual environment (CVE), linking system and nonsystem virtual simulations into a fully integrated training capability. The CVE enables the Army to execute combined arms and joint training, mission planning and rehearsals at home station, en route and at deployed locations. SE Core is a key element in the Army's Training Transformation plan to link the FCS-embedded virtual training capability with Current Force and JIM virtual simulators and simulations. SE Core is an FCS-complementary system. This program supports T2 and the FCS.

Aviation Combined Arms Tactical Trainer–Aviation Reconfigurable Manned Simulator (AVCATT–A) is the aviation component of the Combined Arms Tactical Trainer (CATT) that provides a system for staff/crew collective and combined arms training, mission rehearsal and joint exercises. AVCATT–A will be fair-fight interoperable with Close Combat Tactical Trainer (CCTT), is capable of linking with other AVCATT–A systems via LAN or wide area network (WAN), can be networked to the Army Tactical Command and Control System (ATCCS) workstations and will be interoperable with future CATT systems. It is a multifunctional training system, tailorable to specific unit needs such as mission planning and rehearsal and combined arms collective training through use of Distributed Interactive Simulation (DIS) protocols and Tactical Simulation Interface Units (TSIUs). AVCATT-A incorporates Current and Future Force Army aviation aircraft, including attack helicopters AH-64A Apache and AH-64D Apache Longbow, armed observation helicopters OH-58D Kiowa Warrior, utility helicopters UH-60A/L/M Black Hawk, cargo helicopters CH-47D/F Chinook, and future Armed Reconnaissance Helicopters. Each AVCATT–A system consists of two trailers with six reconfigurable manned modules, Battle Master Control (BMC) room with role-player workstations capable of replicating battle command, ground maneuver, fire support, close air support, logistics and engineer functional areas, and an AAR facility. The virtual environment is viewed through a helmet-mounted visual display (HMVD) and has a backup viewing system. The program was approved for full-rate production in December 2003. The AVCATT–A is currently fielded to Fort Rucker, Fort Campbell, Army

National Guard Region V (Eastover, SC), USAREUR, Fort Stewart and Korea. By the end of FY05, two additional systems will be fielded to Fort Hood and Army National Guard Region I (Marana, AZ). The AVCATT–A is a mobile system that can support unit collective training at multiple sites including home station, CTCs, and National Guard training sites. This system supports modular force conversion.

Soldier Combined Arms Tactical Trainer (S-CATT) is another member of the CATT family and will be designed to support small-unit leader training on critical combat skills prior to executing them in a live training environment. Soldier CATT's centerpiece is the Virtual Warrior, a high-fidelity dismounted leader trainer providing a natural virtual environment in which dismounted leaders see the battlefield in three dimensions, control subordinate virtual Soldiers through voice recognition/voice synthesis, and communicate via FM voice communications and a Land Warrior-like interface. The reconfigurable vehicle simulators will be rapidly reconfigurable, partial-immersion trainers supporting all Stryker variants, HMMWVs and BFVs where mounted leaders see the battlefield in three dimensions from their crew station point of view and communicate via voice and digital FBCB2 systems.

Engagement Skills Trainer (EST) 2000 is a unit/institutional, indoor, multipurpose, multi-lane, small arms, crew-served and individual antitank training simulator that trains individual marksmanship, unit collective gunnery and tactical training for static dismounted infantry, scout, engineer, military police squads, and CS/CSS elements. EST 2000 provides the capability to build and sustain marksmanship, squad and team fire distribution and control, and judgmental use of force training using computer-generated imagery. Weapons supported are M16A2 rifle, M4 carbine, M9 pistol, M249 machine gun, M60 machine gun, M240B machine gun, M2 .50-caliber machine gun, MK19 grenade machine gun, M203 grenade launcher, M136 antitank weapon and M1200 shotgun. EST 2000 is currently funded and in production and has been fielded with great success. An increase to this requirement is expected as users recognize the value of this training device. EST supports modular force conversion and the global war on terrorism.

Call for Fire Trainer (CFFT) is a collective training system that provides a simulated battlefield for training forward observers at the institutional and unit levels. The system will be developed to high-level architecture standards and will operate in a stand-alone or integrated mode to train from one to nth students in an institutional or home station training environment. The system is transportable and provides for advanced distributed learning, simulated military equipment, virtual environments, and computer-generated forces. Modular system architecture allows for interrogations with other simulation systems, tactical equipment and future combat training systems. This system supports the global war on terrorism.

Combat Training Centers Modernization Program

Digital After Action Review Tool (DAART) enables the CTC instrumentation system to monitor digitized unit communications and collect digital data to prepare the AAR for digital units. This program is critical in providing a bridge between the current and objective instrumentation systems (OIS). It enables the CTC current instrumentation systems to collect digital data for the preparation of AARs for Army Battle Command System (ABCS)-equipped units.

CTC Battle Command (BC) Security. CTCs are required to be able to connect to ABCS for the purpose of: (1) playing the higher headquarters (HICON) and adjacent units; (2) extracting critical information from the ABCS for the purpose of AAR and take-home package (THP) development; (3) maintaining safety during the exercise; (4) and controlling the exercise. Instrumentation and AAR product systems (such as DAART) are currently required to operate in Secret System High (SSH). CTC BC security provides a capability allowing CTC instrumentation and support systems (such as DAART, OIS) to be connected to the rotational unit's ABCS. CTC instrumentation and other supporting systems were developed as training devices and, as such, were not considered automated information systems (AIS). The increasing use of automated systems to support command and control functions and changes in the regulations concerning information assurance have resulted in new requirements for certification and accreditation of CTC instrumentation and supporting systems. The security environment at each CTC must be significantly upgraded to continue to support realistic training by rotation units. CTC BC Security supports modular force conversion.

Objective Instrumentation System (OIS) is based on and compliant with the CTIA and LT2 concepts.

The OIS is a program to facilitate force-on-force training at the maneuver CTCs (NTC, JRTC and CMTC) to train U.S Army AC units and National Guard units, and provides joint training capability with the other Services. The OIS is an upgrade from the current instrumentation system (IS) and will be developed according to the CTIA. The CTIA serves as the common core architecture for the OIS programs, as well as the instrumentation system programs for home stations and the JRTC MOUT facility.

The OIS consists of four subsystems: (1) Core Instrumentation Subsystem, (2) Range Data Measurement Subsystem, (3) Range Monitoring and Control Subsystem and (4) AAR Subsystem. The OIS is an integrated system of computer software and hardware, workstations, databases, voice and video recording, production and presentation equipment, interface devices, and communication systems. The system is configured to collect, report, store, manage, process and display event data for 2,000 instrumented players with the capability to expand to 10,000 instrumented players.

The OIS will accomplish the following functions: exercise planning, system preparation, exercise management, training performance feedback, and system support. The OIS will primarily:

- Collect digital performance data (voice, video and messages) from instrumented battalion-sized task forces of armor, artillery, aviation and dismounted Soldiers conducting force-on-force, combined arms, or maneuver operations against a live OPFOR.
- Relay the performance data from the training battlefield to the instrumentation system for processing, manipulation and display at the Training Analysis and Feedback (TAF) facility.
- Prepare AARs and aid in the presentation of the AARs to the training units both in the field, using mobile facilities, and at the TAF facility AAR theater. The system will also enable frequent informal "jeeptop" AARs. The system is designed to optimize the data collection and presentation process. Collective training output information is in the form of digital graphics, video presentations, statistical and narrative summaries, and hardcopy paper products.

The system also utilizes the Simulated Area Weapons Effects (SAWE) on the personnel and equipment participating in instrumented training exercises through the use of the SAWE/MILES II system. Data collection, reporting, management, computation, generation, display and weapons effects simulation are performed by analog and digital means through the integrated functioning of the subsystems of the OIS. This system enhances the ability of maneuver CTCs to conduct force-on-force, live-fire combined arms training by allowing the collection of engagement data for analysis and AAR production. Priority of fielding is NTC and JRTC.

Deployable OIS is designed to support instrumented AARs for units not physically located at a maneuver CTC site. The intent is to expand CMTC's Victory Strike capability and demonstrate as a proof of principle (PoP). Following the PoP, the Army will determine if the deployable OIS capability needs to be fielded to additional sites.

MOUT Instrumentation System (MOUT IS). Phase 1 of the MOUT-IS provides a basic capability for monitoring and recording audio and video data, within the MOUT complex in a limited number of buildings, to support AARs for live-fire and force-on-force training exercises. Phase 1 consists of the integration of commercial off-the-shelf (COTS)/nondevelopmental items (NDI) hardware and software components. Signal Communications Systems and Supply, Inc. (SIGCOM) in Greensboro, NC, was approved by the Small Business Administration (SBA) for contract award of Phase 1 of the JRTC MOUT-IS. SIGCOM is classified as a small, disadvantaged (8a) contractor. For Phase II, there will be four contractual efforts for the acquisition of the JRTC MOUT-IS: audio and visual instrumentation, advanced targetry system, indoor position location, and JRTC-IS integration/connectivity. MOUT IS supports modular force conversion and the global war on terrorism.

Deployable MOUT/Modular Armored Tactical Combat House (MATCH). A deployable, instrumented urban operations training system. The system utilizes audio and video recording to capture Soldier actions for AAR input. Instrumentation includes internal and external cameras and controlled targetry and battlefield effects. Facility also includes external lighting, internal and external stairwells, breach points, and moveable wall panels to enhance training. MATCH is designed to be used with ball ammunition and will support up to and including 7.62 mm.

NTC Live-Fire Targets provide for the development and acquisition of replacement target systems on the live-fire ranges. The program will replace existing target systems with state-of-the-art capabilities, integrate and be compliant with NTC OIS live-fire C2, and improve the C2 target array. This program supports modular force conversion and the global war on terrorism.

Opposing Forces Surrogate Training Systems (OSTS) consists of the OPFOR Surrogate Vehicle (OSV), OPFOR Surrogate Tank Vehicle (OSTV) and OPFOR Surrogate Combat Wheeled Vehicle (OSWV). These are based on the M113A3 chassis with visual modifications to include an OSV turret that is driven by BFV components. Excess M60 thermal sights are utilized. The OSTV replaces the M551 Sheridan and M60 tanks used as surrogate tanks, and the OSV replaces M551s and M113s used as surrogate BMPs. These systems will be fielded to NTC, JRTC and CMTC.

OPFOR Combat Wheeled Vehicle. A change in the operational environment reduces

the number of combat tracked vehicles but increases wheeled systems. It provides an array of CS/CSS civilian wheeled vehicles encountered on the modern battlefield using a common M1113 HMMWV chassis. These systems reflect changing real-world conditions and provide full-spectrum capability to the maneuver CTC OPFORs. This includes both tactical and technical vehicles. OSTV/OSV support modular force conversion and the global war on terrorism.

CTC Aviation consists of the OPFOR Aviation and OC/T Aviation. OPFOR Aviation provides OPFOR rotary-wing aviation and unmanned aerial vehicles (UAVs) that replicate emerging threats. UH-1s are aging, near wear-out, and scheduled to leave the inventory in FY08. OC/T Aviation provides the OC/Ts the capability to control the event/exercise and provides an AAR for aviation assets at a maneuver CTC or Joint Air-Ground Center of Excellence (JAGCE) rotation. Both the OPFOR and OC/T aircraft will be fielded as part of the Light Utility Helicopter (LUH) plan and is scheduled for FY08 time frame. There is no UAV program for OPFOR. These systems will replicate real-world conditions and provide full-spectrum capability to the maneuver CTC OPFORs.

OH 58D TESS is needed to support aviation systems during normal rotations (NTC, JRTC and CMTC) as well as at the JAGCE. OH-58D TESS would allow realistic play and provide valuable AAR feedback.

Conclusion

People are central to the Army—they are the keys to achieving ready forces today and a transformed Army tomorrow. Effective Soldiers and leaders—those who are self-aware, adaptive, and innovative—will solve unforeseen operational problems. Developing and maintaining this edge in the human dimension is critical to the success of Army transformation and sustaining day-to-day operational readiness. The Army is committed to the development of its leaders at all levels. This commitment extends equally to all officers, warrant officers, NCOs and Department of the Army civilians of the Active Army, Army National Guard and U.S. Army Reserves. Leaders must be appropriately developed before assuming and while occupying leadership positions to ensure they are competent in, and confident of, their ability to lead at the level assigned. In short, the goal is to develop competent, confident leaders who can exploit the full potential of present and future doctrine.

Army training must change to remain relevant as changes occur in the operational environment. The Army must train Soldiers and units for situations and missions they will face today and in the future. The Army must provide leaders, Soldiers, and units tough, realistic, multi-echeloned and fully integrated training that will produce bold and innovative leaders to deal with complex situations, flexible Soldiers with the Warrior Ethos, and well-trained units. Soldiers of the 21st century will be expected to achieve these results across the full spectrum of operations. The nature of future threats demands that the Army place its highest priority on training the nation's Soldiers.